



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

# SCIENCE

FRIDAY, SEPTEMBER 18, 1914

COSMICAL PHYSICS<sup>1</sup>

## CONTENTS

### *The British Association:—*

- Cosmical Physics:* PROFESSOR ERNEST W. BROWN ..... 389

- Botany in the Agricultural College:* DR. E. B. COPELAND ..... 401

- Sanitation in Vera Cruz* ..... 405

- Foreign Students and the United States* .... 406

- Botanists of the Central States* ..... 406

- Scientific Notes and News* ..... 407

- University and Educational News* ..... 408

### *Discussion and Correspondence:—*

- A Recent Case of Mushroom Intoxication:* PROFESSOR A. E. VERRILL ..... 408

### *Scientific Books:—*

- Wilczynski's Plane Trigonometry and Dickson's Theory of Equations:* PROFESSOR G. A. MILLER. *Lock on Rubber and Rubber-planting:* PROFESSOR F. E. LLOYD..... 410

- The Work of the U. S. Fisheries Marine Biological Station at Beaufort, N. C., during 1913:* LEWIS RADCLIFFE ..... 413

### *Special Articles:—*

- The Transmission of Terrestrial Radiation by the Earth's Atmosphere in Summer and in Winter:* DR. FRANK W. VERY ..... 417

To one who has spent many years over the solution of a problem which is somewhat isolated from the more general questions of his subject, it is a satisfaction to have this opportunity for presenting the problem as a whole instead of in the piecemeal fashion which is necessary when there are many separate features to be worked out. In doing so, I shall try to avoid the more technical details of my subject as well as the temptation to enter into closely reasoned arguments, confining myself mainly to the results which have been obtained and to the conclusions which may be drawn from them.

In setting forth the present status of the problem, another side of it gives one a sense of pleasure. When a comparison between the work of the lunar theorist and that of the observer has to be made, it is necessary to take into consideration the facts and results obtained by astronomers for purposes not directly connected with the moon: the motions of the earth and planets, the position of the observer, the accuracy of star catalogues, the errors of the instruments used for the measurement of the places of celestial objects, the personality of the observers—all these have to be considered; in fact, almost every one of the departments of the astronomy of position must be drawn upon to furnish necessary data. The time has now arrived when it may perhaps be possible to repay in some measure the debt thus contracted by furnishing to the astronomer, and perhaps

MSS. intended for publication and books, etc., intended for review should be sent to Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

<sup>1</sup> Address of the Vice-president of Section A, British Association for the Advancement of Science, Australasian meeting, 1914.